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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,166	07/31/2003	James Maligcorgos	SILA:127	7540

7590 09/25/2006

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EXAMINER

LEE, JOHN J

ART UNIT PAPER NUMBER

2618

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/631,166	Applicant(s) MALIGEORGOS ET AL.	
	Examiner JOHN J. LEE	Art Unit 2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-20 is/are allowed.
- 6) ☒ Claim(s) 1,2,21-23,32 and 33 is/are rejected.
- 7) ☒ Claim(s) 3-10,24-31 and 34-46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/06,7/05,10/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1, 2, 21-23, 32, and 33** are rejected under 35 U.S.C. 103(a) as being obvious over Hessel et al. (US 6,389,078) in view of Sorrells et al. (6,370,371).

Regarding **claims 1, 21, and 32**, Hessel discloses that a radio-frequency (RF) apparatus (Fig. 1 and abstract). Hessel teaches that a first circuit partition (12 in Fig. 2) comprising at least one of transmitter circuitry, receiver circuitry, or a combination (Fig. 2 and column 6, lines 32 – 61, where teaches a first partition including radio receiver/transmitter system to operate with any of plurality of radio frequency). Hessel teaches that a second circuit partition (24 in Fig. 2) coupled to said first circuit partition (12 in Fig. 2) (see Fig. 2), said second circuit partition (24 in Fig. 2) comprising baseband interface circuitry (24 in Fig. 2) configured for coupling to baseband processor circuitry (Fig. 2 and column 6, lines 32 – column 7, lines 44, where teaches the baseband processing circuitry coupled with receiver/transmitter system). Hessel teaches that a third circuit partition (18 in Fig. 2) coupled to said second circuit partition (24 in Fig. 2) and comprising frequency modification circuitry comprising at least one variable capacitance device (Fig. 2, 4B and column 7, lines 17 – column 8., lines 25, where teaches the baseband processing circuitry coupled with configuration control circuitry for

reconfiguring frequency modification and inherently inside of circuitry has a variable capacitance), said frequency modification circuit (18 in Fig. 2) being configured for coupling to a crystal to form a crystal oscillator circuit (167 in Fig. 8) that is capable of providing an adjustable reference signal to said second circuit partition (Fig. 8, column 11, lines 21 – column 12, lines 10, and column 26, lines 11 – 43 teaches the oscillator circuit coupled center frequency offset and frequency phase shift for providing an adjustable reference signal to the baseband circuitry). Hessel teaches that the second circuit partition (24 in Fig. 2) is configured to receive said adjustable reference signal and to provide said adjustable reference signal or a signal based on said adjustable reference signal to said first circuit partition (12 in Fig. 2) (Fig. 8, column 11, lines 21 – column 12, lines 10, and column 26, lines 11 – 43 teaches the oscillator circuit coupled center frequency offset and frequency phase shift for providing an adjustable reference signal to the baseband circuitry and the baseband circuitry receives and configure the adjustable signal and transmitting the adjusting signal to the receiver/transmitter circuitry).

Hessel does not specifically teach the limitation “at least one variable capacitance device being configured to adjust the frequency of said adjustable reference signal”.

However, Sorrells teaches the limitation “at least one variable capacitance device being configured to adjust the frequency of said adjustable reference signal” (Fig. 19, 20, 23 and column 15, lines 11 – column 16, lines 20, where teaches capacitors being configures the adjustable reference signal to change desired lower frequency such that baseband signal). It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify the Hessel structure as taught by Sorrells, the motivation to improve controlling frequency quality in radio frequency system.

Regarding **claims 2 and 22**, Hessel teaches that the first circuit partition comprises a first integrated circuit that includes receiver analog circuitry and transmitter circuitry (Fig. 2 and column 6, lines 32 – 61, where teaches a first partition including radio analog receiver/transmitter circuitry to operate with any of plurality of radio frequency). Hessel teaches that the second circuit partition comprises a second integrated circuit that includes receiver digital circuitry (24 in Fig. 2) (Fig. 2 and column 7, lines 1 – column 8, lines 25, where teaches second partition circuitry including the baseband processing circuitry and receiver digital circuitry coupled with receiver/transmitter system). Hessel teaches that the third circuit partition comprises a third integrated circuit that includes said frequency modification circuitry and local oscillator circuitry (Fig. 2, 4B, 8, column 7, lines 17 – column 8, lines 25, and column 11, lines 21 – column 12, lines 10, where teaches the baseband processing circuitry coupled with configuration control circuitry for reconfiguring frequency modification including the oscillator circuit coupled center frequency offset and frequency phase shift for providing an adjustable reference signal to the baseband circuitry).

Regarding **claim 23**, Hessel teaches that the second circuit partition is configured for coupling to baseband processor circuitry that comprises receiver digital circuitry (Fig. 2 and column 7, lines 1 – column 8, lines 25, where teaches second partition circuitry including the baseband processing circuitry and receiver digital circuitry coupled with receiver/transmitter system).

Regarding **claim 33**, Hessel teaches that the first circuit partition is integrated within a single integrated circuit (Fig. 2 and Fig. 2 and column 6, lines 32 – 61, where teaches a first partition including radio receiver/transmitter system, single integrated circuitry, to operate with any of plurality of radio frequency).

Allowable Subject Matter

3. Claims 11-20 are allowed.

Claims 11-20 are allowable over the prior art of record because a search does not detect the combined claimed elements as set forth in the claims 11-20.

As recited in independent claim 11, none of the prior art of record teaches or fairly suggests that a third circuit partition coupled to said second circuit partition and frequency modification circuit being configured for coupling to a crystal to form a crystal oscillator circuit that is capable of providing an adjustable reference signal to said second circuit partition, and said at least one variable capacitance device being configured to adjust the frequency of said adjustable reference signal based at least in part on one or more analog frequency control signals received by said frequency modification circuitry, and digital-to-analog conversion circuitry coupled to said frequency modification circuit, said DAC circuitry being configured to receive one or more digital frequency control signals and to generate and provide at least a portion of said one or more analog frequency control signals to said frequency modification circuit based on said one or more digital frequency control signals, wherein said second circuit partition is configured

to receive said adjustable reference signal and to provide said adjustable reference signal or a signal based on said adjustable reference signal to said first circuit partition, and together with combination of other element as set forth in the claims 11-20. Therefore, claims 11-20 are allowable over the prior art of records.

4. Claims 3-10, 24-31, and 34-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose “the third circuit partition is configured for coupling to said baseband processor circuitry, and wherein said at least one variable capacitance device of said frequency modification circuitry is configured to adjust the frequency of said adjustable reference signal based at least in part on one or more frequency control signals received by said frequency modification circuitry, said one or more frequency control signals comprising signals provided by said baseband processor circuitry or comprising signals that are based on signals provided by said baseband processor circuitry” as specified in the claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Phillips et al. (US 5,859,878) discloses Common Receive Module for a Programmable Digital Radio.

Alderton (US 6,263,192) discloses DC-DC Converter Synchronization in a Mobile DC-Powered Device.

Information regarding...Patent Application Information Retrieval (PAIR) system... at 866-217-9197 (toll-free)."

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231
Or P.O. Box 1450
Alexandria VA 22313

or faxed (571) 273-8300, (for formal communications intended for entry)

Or: (703) 308-6606 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to USPTO Headquarters, Alexandria, VA.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John J. Lee** whose telephone number is **(571) 272-7880**. He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00 pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor,

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Edward Urban, can be reached on **(571) 272-7899**. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is **(703) 305-4700**.

J.L
September 16, 2006

John J Lee



EDWARD F. URBAN
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